



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,186	01/23/2002	Peter J. Schiller	14143	8462

25763 7590 10/21/2003

DORSEY & WHITNEY LLP
INTELLECTUAL PROPERTY DEPARTMENT
50 SOUTH SIXTH STREET
MINNEAPOLIS, MN 55402-1498

EXAMINER

SWARTHOUT, BRENT

ART UNIT	PAPER NUMBER
----------	--------------

2636

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,186

Applicant(s)

SCHILLER ET AL.

Examiner

Brent A Swarthout

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 37-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-22 is/are allowed.
- 6) ☒ Claim(s) 1-4, 13-15, 23-26, 35 and 37-44 is/are rejected.
- 7) ☒ Claim(s) 5-12 and 27-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasanami et al. in view of Falangas and Triad Sentinel Article.

Claims are rejected for the same reasons as set forth previously in paragraph No. 1 of the Office action mailed 4-22-03.

3. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Triad Sentinel Article.

Claim 23 is rejected for the same reasons as set forth previously in paragraph No. 2 of the Office action mailed 4-22-03.

4. Claims 24-26 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Triad Sentinel Article in view of Kasanami et al. and Falangas.

Claims are rejected for the same reasons as set forth previously in paragraph No. 3 of the Office action mailed 4-22-03.

5. Claims 37-40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neukermans et al. in view of Namerikawa et al.

Neukermans discloses a device with sensor means on a chip comprising substrate with proof mass 117, membrane 107 suspending proof mass 117, and piezoelectric means 115 disposed on the membrane for sensing rotation rate

(Figure 1), except for specifically stating that a single sheet of piezoelectric material was used with electrodes disposed on the sheet.

Namerikawa discloses desirability in a gyro sensor device of using a sheet of piezoelectric material 16/18a/18b with electrodes 18c on top (Fig.3)

It would have been obvious to use a piezoelectric sheet as disclosed by Namerikawa in conjunction with a sensor as disclosed by Neukermans, in order to allow for ease of sensor application and to allow a larger vibrational response by using thin walled sensor means.

Regarding claim 40, Namerikawa teaches desirability of using a gyro sensor for obtaining navigation data (col.1, lines 24-30). Choosing to display navigation data obtained from sensors would have been obvious in order to learn the results of the sensed conditions.

6. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Namerikawa et al.

Namerikawa discloses a gyro with film piezoelectric material with plural piezoelectric elements 18b, which output rotational rate signals (col.1, line 25).

Since base layer 26 and electrode layer 18a are thin film layers, it would have been obvious to use a thin film for piezoelectric film as well, in order to obtain maximum vibration.

7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Namerikawa et al. in view of Boxenhorn

Boxenhorn teaches desirability of placing plural gyros on one chip for redundancy (col.8, lines 39-42).

It would have been obvious to place plural gyro sensors as disclosed by Namerikawa on a chip as suggested by Boxenhorn, in order to provide redundancy and increase system reliability.

8. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neukermans et al. in view of Namerikawa et al. and Boxenhorn.

It would have been obvious to use plural gyros as taught by Boxenhorn in conjunction with a system as disclosed by Neukermans and Namerikawa for the same reasons as set forth above in paragraph No. 8.

10. Regarding remarks filed with the response on 7-21-03, choosing to use a single sheet of piezoelectric material instead of separate portions for each sensor, would have been obvious, for ease of application to multisided sensors.

Regarding claim 23, the claim does not set forth particular structural details of how to make a gyro, so the description of Triad is sufficient to satisfy the claim language for a gyro sensor of typically sensed attitude values.

11. Claims 16-22 are allowed.

12. Claims 5-12 and 27-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A Swarthout whose telephone number is 703-305-4383. The examiner can normally be reached on M-F from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on (703) 305-4717. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Brent A Swarthout
Examiner
Art Unit 2636

**BRENT A. SWARTHOUT
PRIMARY EXAMINER**